

AMENDMENT

(Amendment under Section 11)

To : Commissioner of
the Patent Office
(Examiner of
the Patent Office)

Mr. Hiroshi OGAWA
(Mr. Masamitsu TAKABA)

1. Identification of the International Application

PCT/JP2004/002344

2. Applicant

Name YAMANASHI TLO CO., LTD.

Address 3-11, Takeda 4-chome, Kofu-shi,
Yamanashi 400-8511, Japan

Country of nationality: JAPAN

Country of residence: JAPAN

3. Agent

Name (8032) Patent Attorney USHIKU Kenji
Address SHIMBASHI FRONTIER BLDG. 7th Floor
4-5, Shimbashi 3-chome, Minato-ku,
Tokyo 105-0004, Japan

4. Item to be Amended Claims

5. Subject Matter of Amendment

Claims 1 and 2 are amended.

6. List of Attached Documents

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CLAIMS

1. (Amended) An ionization method using cluster-ion impact, comprising steps of:

generating charged droplets of water or
5 water/methanol mixture in a state in which the droplets are cooled so as to suppress vaporization thereof;

introducing the charged droplets generated into an evacuated chamber; and

forming an electric field in the evacuated chamber
10 and accelerating the charged droplets by the electric field to cause them to bombard a biological sample, thereby desorbing and ionizing the biological sample.

2. (Amended) An ionization apparatus using cluster-ion impact, comprising:

15 an accelerator having an evacuated acceleration chamber, in the interior of which accelerating electrodes and a sample table are disposed, provided outside of an ion introduction port of a mass analyzer and communicating with the interior of the mass
20 analyzer through the ion introduction port; and

a charged-droplet generating device, which has a charged-droplet generating chamber that communicates with said evacuated acceleration chamber through a droplet introduction port of said evacuated
25 acceleration chamber, for generating charged droplets of water or water/methanol mixture in the charged-droplet generating chamber in a state in which the

droplets are cooled so as to suppress vaporization thereof;

wherein the charged droplets generated by said charged-droplet generating device are introduced from
5 said charged-droplet generating chamber to said evacuated acceleration chamber through said droplet introduction port, the droplets are accelerated by said accelerating electrodes, to which a high voltage has been applied, and bombard a biological sample on the
10 sample table, and ions of the biological sample desorbed and ionized thereby are introduced to the mass analyzer through said ion introduction port.